



The Minuteman Repeater Association

A non-profit organization providing communications infrastructure and volunteers for community and emergency events.



The Minuteman

Volume 46, Number 1

September 2016

September Membership Meeting ~ Sunday, 11 September, 11 AM

Introduction to the MMRA and door prizes!

At Boxboro! 2016 [in the Federal Room]

Holiday Inn Boxboro Woods, 242 Adams Place, Boxborough, MA

SPECIAL: MMRA Door Prizes at the Boxboro Convention

TYT MD-380 Vhf Analog & DMR radio Portable

Cushcraft A50-5s 6 M 5 element Beam

Diamond X50A 2m/440 dual Band vertical base station antenna

ARRL Antenna book

All MMRA members with paid-up 2-year memberships as of 11am September 11, 2016 will be eligible for the MMRA door prizes at the Boxboro Convention. Door prize winners will be announced shortly after 12 noon on Sunday September 11.

Also of interest at Boxboro! 2016

DIGITAL RADIO REPEATER MODES

3 PM Sat., Cotillion Room

Rick Zach, K1RJZ, Moderator

Rick will lead a discussion about digital voice repeater technologies: DMR, D-Star, Fusion, and NXDN, "on an equal footing in a single unbiased presentation. These will be presented from the perspective of five subject matter experts with technology breakout sessions to follow. An emphasis will be to present the acceptance status of each in New England as of September 2016.

PROGRAM YOUR RADIOS WITH OPEN SOURCE SOFTWARE

10 AM Sat., Board Room

James Lee, N1DDK

This presentation is an overview of Chirp software which is used to program most radios. *What is Chirp? Supported radios? Common problems and solutions?* A workshop will follow. Power supplies along with computers and programming cables will be available. (See Page 6.)

CARE AND FEEDING OF ASTRON POWER SUPPLIES

11 AM Sat., Board Room

James Lee, N1DDK

Astron's are the most common supplies found in most ham shacks. This talk will outline repairs and upgrades to a few Astron supplies: the RS20, RS35, and other models. Photos and hands on parts will allow attendees to walk away with the confidence to repair their supply.

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About the Minuteman Repeater Association

The Minuteman Repeater Association (MMRA) is dedicated to Amateur Radio and public service. The MMRA maintains a large system of repeaters in Eastern Massachusetts.

The MMRA meets (usually) on the 3rd Wednesday of each month from September to June. Meeting times, locations, and talk-in frequency vary and are announced in this newsletter and on weekly nets. Meetings are open to all interested parties. Guest speakers and programs of general interest occur in September, November, January, March, and May. The intervening meetings are also open to all members and are for general business.

The Minuteman newsletter is Emailed one week before each general interest meeting. Members are encouraged to submit articles which can be sent to the editor at newsletter@mmra.org. The deadline for articles is the last Friday of the month preceding the meeting.

Each Tuesday evening at 8PM the MMRA links most of the repeaters for an open net. The topic is "Technical Information and Other Stuff". Join us!

Membership in the MMRA is open to all radio amateurs. Annual dues are \$25 per individual or \$35 per family. See our website for details.

Email to the club leadership should be sent to contact@mmra.org. The MMRA maintains a web site at: <http://www.mmra.org/>

An email distribution list for club members named "MMRA" is at: www.yahooogroups.com/.

You can also follow us on twitter @mmraham and like us on Facebook: <https://www.facebook.com/mmraham>.

MMRA QRM Policy

MMRA members and all other operators are strongly encouraged to report repeater activity that does not abide by Part 97 rules or accepted amateur radio practice to the board of directors at contact@mmra.org or via other means.

The most effective way (and probably the only effective way) to deal with an individual causing QRM is to NOT engage that individual on the air. Please include the time and date of any incident. Measures are being taken to make audio recordings of repeater activity.

Repeater and Frequency Information

Band	XMTR Location	Freq	PL	Call	Linking	
					To Hub 1	To Hub 2
MMRA Voice Repeaters						
10m	Marlborough	29.680	131.8	W1MRA	PTL	PTL
6m	Marlborough	53.810	71.9	W1BRI	PTL	PTL
Remote receive in Hopkinton PLin = 173.8						
2m	Brookline	145.160	na	K1MRA	D-Star	
	Belmont	145.430	146.2	KC1CLA	PTL	FTL: DARI
	Mendon	146.610		K1KWP	FTL	PTL
	Quincy	146.670		W1BRI	PTL	PTL
	North Reading	146.715		KC1US	PTL	PTL
	Weston	146.790		N1BE	PTL	PTL
	Boston	146.820		K1BOS	FTL	PTL
	Remote receive in Brookline Boston: PLin = 127.3					
Marlborough	147.270	146.2	W1MRA	PTL	PTL	
1½m	Hopkinton	223.940	103.5	KB1LOY	PTL	FTL
	Quincy	224.400		N1KUG	PTL	FTL
	Weston	224.700		N1NOM	PTL	FTL
	Marlborough	224.880		W1MRA	PTL	FTL
70cm	Lowell	442.250	88.5	K1LVF	FTL	PTL: 446.775
	Weston *	442.700		KG1H	Network Hub 2 (PTL to Hub 1)	
	North Reading	446.775		W1DYJ	FTL	PTL
	Marlborough	448.225	na	W1MRA	D-Star	
	Hopkinton	449.575	88.5	W1BRI	PTL	PTL
	Marlborough *	449.925		W1MRA	Network Hub 1	
33cm	Boston *	927.0625	D244	K1RJZ	PTL	PTL
	Marlborough *	927.700		W1MRA	PTL	PTL
PL out = 131.8						
Marlborough		144.390	none	W1MRA	APRS Digipeater	
???		145.630	146.2	W1MRA	Fox Box	
*Internet	HUB1- 449.925: IRLP node 4133 / Echolink node 4133					
	HUB2 - 442.700: IRLP node 4136; Connected to 220 Reflector 9124 on Tuesdays					
	927.0625: IRLP 4977			Normally linked to the NE900 Reflec- tor, 9125. Linked to MMRA via IRLP for the TIAOS net. Normally linked together.		
	927.700: IRLP 4978					

Notes: FTL = Full Time Linked (or default state) PTL = Part Time Linked (on schedule or demand)

President's Corner ~ David Wolfe, KG1H

As the president of the MMRA, I participated in the ARRL New England Division Cabinet Meeting on Saturday, July 9th. Even though not all MMRA members are members of the ARRL, most of the subjects discussed apply to all hams. Attendees initiated most of subjects that were discussed.

The Air Force is involved in a major upgrade to the PAVE Phased Array Warn (PAVE PAWS) in both Cape Cod and California requiring additional testing next year. They reported that the noise floor is increasing across the band. The information that came down to ARRL is that the impacts to the ham utilization of the 440 MHz band may require 'adjustments' from what it is now, and may require an 'extension' of the impact radius. As you might recall, some 440 MHz repeaters close to PAVE PAWS were shut down and others further out (impact radius) required that their output power be greatly reduced. The ARRL is monitoring the situation.

The general consensus of all the attendees is that the number of hams that participate in public service events across New England has been greatly reduced from what it has been several years ago. Some thought that the increasing age of those participating has been the main reason, and that the new/younger hams have not picked up the interest. Some associations rely on preprogrammed cell phones, a few on DMR. That lead to a discussion of how we need to attract the young to become hams and participate in these events. Any ideas are welcome.

The full House Energy and Commerce Committee at a markup session on July 13 unanimously adopted a substitute bill in the form of an amendment to the Amateur Radio Parity Act (H.R. 1301). The next step for the bill as amended is for consideration by the full House. There is no current timetable for that action. It will ensure that every ham in the US, regardless of the community they live in, will have the opportunity to practice their avocation from their own homes without breaking any rules or fear of reprisal.

No FCC action on ham VLF as yet for 472-479 KHz and 135-137 kHz. Expecting something soon. Coordinating with the power companies is complex. Clearly, our national power system is vulnerable.

The effectivity of the FCC Official Observer (OO) program has been reduced by less FCC enforcement. The OO program serves as the first line of "eyes and ears" for the FCC. It is the backbone of the Amateur Auxiliary. OOs are certified in the Auxiliary by passing a mandatory written examination.

Attention!

Quincy 146.67 is currently running on temporary equipment while the permanent rig is repaired. It is at 40% of normal power and NOT linkable. Quincy 224.4 is off-the-air. This will revert to normal operation in about six weeks or so.



SEPTEMBER 9, 10, & 11
At the Holiday Inn in Boxborough, MA

Major Manufacturers!

Flea Markets!

First-Class Forums and Seminars!

Friday DXCC/Contest Dinner with David Collingham K3LP of the VP8S DXpedition

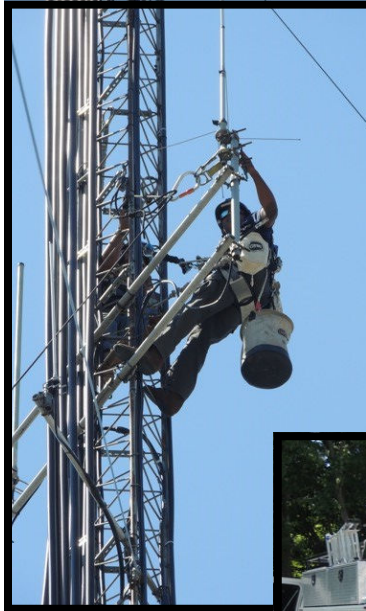
PRIZES!
PRIZES!
PRIZES!

See <http://www.boxboro.org> for info and to purchase tickets
Tickets also available at Ham Radio Outlet in Salem, NH and
at Electronics Plus in Littleton, MA

The MMRA needs people the help at the Convention.
Contact David, KG1H, for details: KG1H@MMRA.org

Hopkinton Heliax Cables donated to MMRA

Thanks to Rick Zach, K1RJZ, on the afternoon of July 21, the MMRA removed twelve donated 160+ foot sections of Heliax cable (and some antennas) as they were removed by contractors from a 200' tower in Hopkinton. Here are photos of the operation, thanks to Rick and Dave, KG1H.



May Membership ANNUAL Meeting and Programming Your Radio with CHIRP ~ James Lee N1DDK

First Bob, K1IW, ran his last Annual Meeting as President by holding the vote for officers. The nominees were all elected:

- | | |
|-------------------------|-----------------------------|
| ♦ David Wolfe, KG1H | President |
| ♦ Mike Neilsen, W1MPN | Vice President, |
| ♦ John McGovern, W1JMC | (incumbent) Secretary |
| ♦ Kevin Paetzold, K1KWP | (incumbent) Treasurer |
| ♦ Bob Evans, N1BE | (incumbent) Clerk |
| ♦ Clark Conti, N1NVK | (incumbent) Director > 2018 |
| ♦ James Lee, N1DDK | Director > 2018. |



Next, James, N1DDK, talked about CHIRP.

What is Chirp?

- Chirp is open source software that runs on PC's, Mac's and Linux.
- It can program most radios.
- Strong community support.

Program your Radios
With open source software

Where do I get Chirp?

- <http://chirp.danplanet.com>
- Stable builds? Daily builds?
- the latest daily build. Update frequently.

Chirp Benefits

- Large number of radios supported.
- Community support.
- Not limited to only PC's
- Preferred method of programming for many radios (Wouxun, Baofeng)
- Frequency data is portable from one radio to another.
- Repeater data bases.
- CSV files.

Programming Your Radio with CHIRP ~ James Lee N1DDK

Is my radio supported May 2016?

**Many are — more
being added**

How do it do it?

1. Install Chirp. (Update if you have an old copy)
2. Plug in your programming cable and radio and fiddle with drivers.
3. Download from your radio.
 - Always download from radio you are programming.
4. Update the channels.
5. Upload to your Radio.

Done!

A Common Data Base

- Chirp comes with many data bases you can load directly onto your radio

EU LPO and PMO Chemicals

FBI Marine VHF Channels

Marine WFF Chemicals

NCAA Weather Alert

135 60 meter channels (Cont'd)

US 63 meter channels (Dad)

US Online Resources

US FPG and CMFG Channels

USE MORE Channels

- www.amateur-radio.net/chirp_generator
- I have repeater lists here today for:
 - All Of MMRA (Minute Man Repeater Association)
 - Boxborough Area

Chirp On Raspberry Pi

[illegible]

www.amateur-radio.net/chirp

[illegible]

Programming Your Radio with CHIRP ~ James Lee N1DDK

Continued Again

Join the "Community"

- Chirp.users mailing list
 - help, tips and tricks
- Chirp.developers mailing list
 - Learn more
 - Contribute
 - Python, HG

Most Common Problems

- Drivers: Good luck with windows 8 or 10. Good luck with counterfeit Prolific chips is programming cables. Most of the inexpensive cables bad chips.
- Hidden menus. A few tricks to navigating Chirp.
 - the "Property" button to edit extra channel attributes
 - the "Settings" tab to get to radio settings.
- Incompatible versions of similar radios.

Make Your Own Cables?



- Many radios "CMOS" or "TTL Level" Serial (RS232) signals.
- Most computers have USB ports, not RS232 ports.
- A FTDI Breakout board sometimes called "FT232RL FTDI USB to TTL Serial Adapter Module for Arduino Mini" You can find them on Ebay or sparkfun does most of the work. Just make a cable from the serial pins to your radios connector.
- No more problems with "Counterfeit Prolific Drivers" The FTDI Chips on the breakout boards are genuine.

Home made cable library



ICOM (left)

TYT.

Jetstream.

• etc.

Questions?

- Ask Them Now!
- FAQ:
 - <http://chirp.danplanet.com/projects/chirp/wiki/FAQ>
- Join the mailing list (alot of emails)
 - http://intrepid.danplanet.com/mailman/listinfo/chirp_users
- Who brought a radio to program?

June Business Meeting

Bob Evans, Clerk, N1BE

Minutes of the June MMRA Business meeting by N1BE, MMRA Clerk

The MMRA board met for a business meeting at the office of Stratus in Maynard, MA at 7:00 PM on June 15. In attendance were K1KWP, N1DDK, W1DYJ, N1BE, W1BRI, KG1H, W1MPN, N1NVK, WA1NVC and K1IW.

New MMRA President Dave, KG1H, opened the meeting with a discussion of overall running and management of the MMRA. We reviewed roles of the club leaders. Dave emphasized the need for active support. Particularly since it takes many skills from many different people to make the MMRA productive and interesting.

Dave looked at various technical specialties. Although we collect this info on the membership application, the categories need to be revised. Experience shows that members do show up and volunteer when we need some labor, like the recent repeater move to North Reading.

With so many repeaters, the maintenance effort is too much for the few people we have that know how to work on a repeater. We brainstormed ways to train interested members in how to do preliminary diagnosis and simple repairs.

Dave suggest putting together a list of who to call for each kind of failure. Also documenting the details of each repeater / site.

Next we reviewed locations and speakers for general membership meetings. We will have an MMRA presentation at Boxboro on Sept 11th. This will be the MMRA meeting for that month.

We next discussed the MMRA room at Boxboro. N1NVK will be making arrangements for talk-in. Clark also agreed to purchase items for a raffle. The board approved an expenditure of up to \$350 to purchase prizes. We also plan to offer a 6-M beam owned by the MMRA as another prize.

Discussion next turned to our primary assets, the 22 repeaters. Given our membership numbers, there is approximately one repeater for each 10 members. This is a lot to support. But it also offers a lot of value to each member.

Dave next reviewed standby power for the repeaters - batteries and generators. No action was taken except to discuss how we could power the HUB1 site in an emergency if someone brought a generator or source of 12V DC to the site.

Although KG1H had an agenda item about DMR, we did not discuss this item due to lack of time.

Next we discussed a few open issues needing action in the near term.

- W1BRI proposed a new home for 449.575. Bryan will move the repeater if the site is available.
- When 449.575 is moved K1IW offered to pick up feedline and accessories at the same time.
- K1IW is replacing two repeater power supplies – Brookline is already done.
- We have to do more work on the antenna mounts in North Reading - deferred until autumn.
- Determine cause of failure and repair North Reading 446.775 failure - K1IW volunteered to do this, W1DYJ offered to come along to learn about the site.
- Isolate source of Quincy 146.67 intermittent noise - W1BRI has parts and plans to go to the site to replace a marginal N-connector.

Ed Curley, KC1CLA, was appointed as the new trustee of Belmont 145.43.

The board approved purchase of tickets for dinner tables at Boxboro.

The board approved an expenditure not to exceed \$50 to repair an MMRA RS-50M power supply.

We adjourned at 20:49.

**Next MMRA Business Meeting:
Wednesday 21 Sept, 7PM
Location: Stratus, Maynard**

Upcoming MMRA Meetings

Saturday, 11 Sept ~ Membership Meeting
Introduction to MMRA & Door Prize Drawing
At the Boxboro! 2016 ARRL Convention
Holiday Inn, Boxborough

Wed, 21 Sept ~ Business Meeting
Location: Stratus, Maynard

Wed, 19 Oct ~ Business Meeting
Location: Stratus, Maynard

Wednesday, 16 Nov ~ Membership Meeting
Topic—TBD
Location—TBD

Wed, 21 Dec ~ Business Meeting
Location: Stratus, Maynard

Wednesday, 18 Jan ~ Membership Meeting
Topic—TBD
Location—TBD

Wed, 15 Feb ~ Business Meeting
Location: Stratus, Maynard

Wednesday, 15 Mar ~ Membership Meeting
Topic—TBD
Location—TBD

Wed, 19 April ~ Business Meeting
Location: Stratus, Maynard

Wednesday, 17 May ~ Membership Meeting
Topic—TBD
Location—TBD

Don't Forget! Join Us.

Every Tuesday @ 8 PM
Technical, Informational and Other
Stuff Net

The MMRA's repeaters are linked Tuesday nights for the TIOS Net. Keep up with what's happening in the MMRA and ask your ham related questions.

Net Control Operators:

Week 1	WA1JIM	Jimmy Devaire
Week 2	W1DYJ	Larry Banks
Week 3	KC1CLA	Ed Curley
Week 4	K1KWP	Kevin Paetzold
Week 5	KB1OQA	Tom Turner

To connect using Echolink / IRLP during the Net:

- Echolink Conference *NEW-ENG2*
- IRLP node 4133

Previous issues of the MMRA Newsletter are available at:
www.mmra.org → [Newsletter Archive](#) (on the left)

MMRA Leaders

Officers

President	David Wolfe	KG1H
Vice President	Mike Neilsen	W1MPN
Secretary	John McGovern	W1JMC
Treasurer	Kevin Paetzold	K1KWP
Clerk	Bob Evans	N1BE
* Technical Officer	Bryan Cerqua	W1BRI

Board of Directors

Director »2017	Steve Schwarm	W3EVE
Director »2017	Roger Coulson	WA1NVC
Director »2018	Clark Conti	N1NVK
Director »2018	James Lee	N1DDK
Director »2017	Bob DeMattia	K1IW

Repeater Trustees

* Belmont 145.430	Ed Curley	KC1CLA
* Boston 927.0625	Rick Zach	K1RJZ
* Boston 146.820	John Mullaney	K1BOS
* Brookline 145.160	Joyce DeMattia	N1QPH
* Brookline 146.820 Rcvr	Bob Phinney	K5TEC
* Hopkinton 223.940	James Cahill	KB1LOY
* Hopkinton 449.575	Bryan Cerqua	W1BRI
* Lowell 442.250	Vince De La Flor	K1LVF
* Marlborough 53.810, Quincy 146.670;	Bryan Cerqua	W1BRI
* Marlborough: 29.68, 144.390, 147.270, 224.880, 448.225, 449.925, 927.700 — all as W1MRA		
	Bill Northup	N1QPR
* Mendon 146.610	Kevin Paetzold	K1KWP
* N. Reading 146.715	Bruce Pigott	KC1US
* N. Reading 446.775	Larry Banks	W1DYJ
* Quincy 224.40	Bill Dunn	N1KUG
* Weston 146.790	Bob Evans	N1BE
* Weston 224.700	Eddie Mulhern	N1NOM
* Weston 442.700	David Wolfe	KG1H

Additional, non-Voting

* Newsletter Editor	Larry Banks	W1DYJ
* Emerg. Coord.	Kevin Paetzold	K1KWP
* Pub. Serv. Coord.	David Wolfe	KG1H
* VEC Liaison	Bill Wade	K1IJ
* Net Manager	Larry Banks	W1DYJ
* Web Page Editor	Bob DeMattia	K1IW

* Appointed

MMRA VE Sessions

Third Saturday

9 AM at the Marlboro Public Library

Contact: Bill Wade, K1IJ 781-891-9079

Evenings 6 - 10 PM Weekends 8 AM to 10 PM.

Accredited by the ARRL VEC

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Introduction to the MMRA *and door prizes!*

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SPECIAL: MMRA Door Prizes at the Boxboro Convention

Calendar of Ham Radio Flea Markets

For more information: <http://mit.edu/w1gsl/Public/ne-fleas>

9-11 Sep Boxboro MA FEMARA NE Conv

10 Sep Windsor CT VR+C Mus 115 Pierson LN
11 Sep Ballston Spa NY SCRACES @FG
17 Sep Forestdale RI RIAFMRS @VFW
18 Sep Cambridge MA Flea at MIT
24 Sep Brookline NH NEARC Antique @EvtCr
24 Sep Forestdale RI RIAFMRS @VFW
9 Oct Queens NY HoSARC @HoS

14-15 Oct Deerfield NH NEARfest XX @FG

16 Oct Cambridge MA Flea at MIT
16 Oct Meriden CT Nutmeg @Sheraton

29 Oct Gales Ferry CT TCARC @FireCo
30 Oct Hicksville NY LIMARC @Levitt Hall
12 Nov Bourne MA FARA @UpperCC VoTech
3 Dec Windsor CT VR+C Mus 115 Pierson LN

2017-----

4 Mar Chicopee MA MtTomARA @8:30 S@6:30
31 Mar Lewiston ME AARC ME Conv @Ramada
8 Apr Newton MA PHSNE Photographica
Sat Only @AmLegion

8-10 Sep Boxboro MA FEMARA NE Conv

THE MINUTEMAN REPEATER ASSOCIATION

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Stow, MA. 01775-0669

Email: contact@mmra.org



WE'RE ON THE WEB
[HTTP://WWW.MMRA.ORG/](http://www.mmra.org/)